Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ AP Calculus AB Chapter 3 Test 1 Derivative Rules

For each of the following functions, find the first derivative. (MAKE SURE TO CIRCLE YOUR ANSWERS)

Find the second derivative of each function.

Find the numerical answer.

1. Suppose that and are differentiable at x = 5 and that

and .

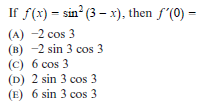
1. at x = 5.
2. at x = 5.
3. ) at x = 5.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | f(x) | g(x) | f’(x) | g’(x) |
| -1 | 0 | -1 | 2 | 1 |
| 0 | -1 | -3 | -2 | 4 |

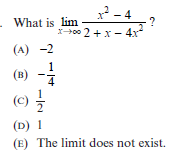
1. at x = -1
2. at x = 0
3. at x = 0

23.) Is continuous at x = 2? Is it differentiable at x = 2? Explain.

24.)



25.)



**BONUS**

**Option 1**

**Find the derivative of**

**Option 2**

**Find the derivative**